

Tribhuvan University
Institute of Science and Technology
2080



Bachelor Level / Second Year/ Fourth Semester
Bachelors in Information Technology (BIT 251)
(Web Technology I)

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Section A

Long Answer Questions

Attempt any TWO questions.

[2×10=20]

1. What is client side validation? Why form validation is needed? Write a JavaScript program to validate a form that contains text field, password field, radio button field, checkbox and dropdown select field. Write validation for each field as required field. Also add validation constraints for password
[2+5+3]
2. What is CSS Box Model? Define the areas and edges in the CSS box model. Write CSS style for demonstrating CSS box model.
[2+5+3]
3. What is the use of XML? Given following XML, write XSD for validating the XML and also write XSLT to transform the XML into HTML file. The Name, and Address are string type, Number is integer and the Accessible is Boolean type. The child elements should appear in the order as below.
[2+4+4]

```
<University>
  <Campus type= "Affiliated">
    <Name>BMC</Name>
    <Address>Bhaktapur</Address>
    <Number>35</Number>
    <Accessible>Yes<Accessible>
  </Campus>
  <Campus type= "Constituent">
    <Name>CMC</Name>
    <Address>Chitwan</Address>
    <Number>35</Number>
    <Accessible>No<Accessible>
  </Campus>
</University>
```

Section B

Short Answer Questions.

Attempt any EIGHT questions.

[8×5=40]

4. Differentiate Web1.0 from Web 2.0.

[5]

5. Create an HTML page that contains Meta tag. Set the title of your page to "This Meta BIT". Set the description content in Meta to "Hello BIT", Keyword contents to "BIT", "IOST", "TU" and character encoding to "UTF-8". Also write "Hello BIT" and "Web Tech" in H1 and H2 tag under body section of the page. [5]
6. Write HTML script to demonstrate use of the main and article tags. [5]
7. Write HTML script to display following output in a division under body section. [5]
 - a. Equation
 - $3x^2 + 2x_1y < 4$
 - $45 < > 30$
 - b. The ampersand (and) sign: &
8. How class selector is different from id selector while defining the CSS for HTML? Support your answer with example. [5]
9. Create a user defined object Student in JavaScript. The object should have attributes with values as Name= "Ram", Age=20,DOB=2003/02/03 respectively. Now display the result retrieving the attributes. [5]
10. Write JavaScript program that will take your name as input using prompt and display the name using alert in alert box. [5]
11. Discuss the use of XQuery and XPath in XML. [5]
12. What is XML Tree? Differentiate static website from dynamic website. [2+3]